

WHAT IS CLAIMED IS:

- 1 1. A method for processing integrated circuit devices including a water
2 recycling process, the process comprising:
3 operating a chemical mechanical planarization process, the chemical mechanical
4 planarization process including a discharge for process water, the process water being used to
5 process one or more semiconductor wafers;
6 selectively discharging process water from the discharge;
7 transferring the process water from the chemical mechanical planarization process
8 to a facility process; and
9 using the discharged water in the facility process.
- 1 2. The method of claim 1 wherein the facility process includes a cooling
2 tower, a local scrubber.
- 1 3. The method of claim 1 wherein the discharge water is characterized by a
2 pH value ranging from about 6 to about 10.
- 1 4. The method of claim 1 wherein the discharge water is characterized by a
2 conductivity is less than about 2000 μ siemens per centimeter.
- 1 5. The method of claim 1 wherein the selectively discharging is provided
2 using a control valve coupled to the discharge, the control valve being coupled to computer
3 hardware.
- 1 6. The method of claim 1 wherein the discharge includes a plurality of lines,
2 each of the lines being coupled to one or more processing stations.
- 1 7. The method of claim 1 wherein the transferring to the facility process
2 comprises transferring to a collection tank before transferring the discharge water to the facility
3 process.

1 8. The method of claim 1 wherein the selectively discharging comprises
2 outputting a signal in response to process in computer software to open a valve to release the
3 process water.

1 9. The method of claim 1 wherein the process water is ultra-pure water
2 having a resistivity of about 18 Mega-ohms.

1 10. The method of claim 1 wherein the transferring of the process water from
2 the chemical mechanical planarization process to a facility process occurs free from any
3 chemical treatment between the chemical mechanical planarization process and the facility
4 process.

1 11. A method for processing integrated circuit devices including a water
2 recycling process, the process comprising:
3 operating a chemical mechanical polishing process using an incoming stream of
4 ultra-pure water, the chemical mechanical polishing process including a discharge for used ultra-
5 pure water, the ultra-pure water being used to process one or more semiconductor wafers and
6 discharged through the discharge to form a facility water;
7 selectively discharging the facility water from the discharge of the chemical
8 mechanical polishing process and transferring the facility water from the discharge of the
9 chemical mechanical polishing process to a facility process, the transferring being free from any
10 chemical treatment of the discharged process water; and
11 using the discharged water in the facility process.

1 12. The method of claim 11 wherein selectively discharging is provided by a
2 valve coupled to the chemical mechanical planarization process.

1 13. The method of claim 11 wherein the ultra-pure water is characterized by a
2 resistance of about 18 mega-ohm.

1 14. The method of claim 13 wherein the ultra-pure water is substantially free
2 from particles greater than about 0.05 microns in dimension.

1 15. The method of claim 11 wherein the transferring the facility water from
2 the discharge of the chemical mechanical polishing process to a facility process includes storing
3 the facility water in a storage facility before use by the facility process.

1 16. The method of claim 15 wherein the facility process is selected from a
2 cooling process, a scrubbing process.

1 17. A system for chemical mechanical polishing, the system comprising:
2 a plurality of processing stations, each of the processing stations being configured
3 to perform at least one processing operation;
4 a discharge line coupled to one or more of the processing stations to receive
5 discharge water;
6 a valve coupled to the discharge line to selectively output the discharge water for
7 use in a facility process; and
8 a drain line coupled to the discharge line for outputting the discharge water to a
9 drain.

1 18. The system of claim 17 further comprising a computer system coupled to
2 the valve, the computer system including one or more memories, the one or more memories
3 including a first code directed to actuate the value to output the discharge water for use in the
4 facility process.

1 19. The system of claim 17 wherein the discharge line comprises a plurality of
2 lines.

1 20. The system of claim 17 further comprising a source line for ultra-pure
2 water coupled to one or more of the processing stations, the ultra-pure water being discharge
3 water after being used by one or more of the processing stations.